

AMENDMENTS TO THE CLAIMS:

Please amend Claim 1 as shown below.

This listing of claims will replace all prior versions and listings of claims in the
Application:

Claim 1 (currently amended): A blood flow visualizing diagnostic apparatus characterized
by having:

an ultrasonic measurement unit which emits an ultrasonic signal toward a blood vessel
inside a human body to receive a reflected ultrasonic signal;

an analysis processing unit which obtains a blood vessel shape and a blood flow
velocity vector in the blood vessel by the received signal;

a simulation unit which sets computational lattices on the basis of the blood vessel
shape obtained by said analysis processing unit to simulate the blood flow velocity vector and a
pressure distribution;

a feedback unit which computes an error between the blood flow velocity vector
obtained by said analysis processing unit and the blood flow velocity vector obtained by said
simulation unit in two dimensions and feeds back the error to a number of representative points
which are distributed over a blood flow domain in said computational lattices of said simulation
unit,

wherein the error is computed as a difference between a component in the ultrasonic
beam direction of the blood flow velocity vector obtained by said simulation unit and a
corresponding component in the ultrasonic beam direction of the blood flow velocity vector
obtained by said analysis processing unit; and

a display unit which displays the blood flow velocity and the pressure distribution output from said simulation unit after the feedback.

Claim 2 (cancelled).

Claim 3 (Previously presented): The blood flow visualizing diagnostic apparatus as claimed in claim 1, wherein a difference in actual feedback is a blood flow force f (vector) in the Navier-Stokes equation expressed by the following equation:

$$\mathbf{f} = -K\{(\mathbf{u}_c \circ \mathbf{u}_m / |\mathbf{u}_m|^2) - 1\} \mathbf{u}_m$$

where the vector \mathbf{u}_c is the blood flow velocity vector $[u_o, v_c, w_c]$ obtained by said simulation unit, the vector \mathbf{u}_m is the blood flow velocity vector $[u_m, v_m, w_m]$ in the ultrasonic beam direction obtained by said analysis processing unit, $\mathbf{u}_c \circ \mathbf{u}_m / |\mathbf{u}_m|^2$ is a projection of \mathbf{u}_c in the ultrasonic beam direction normalized with $|\mathbf{u}_m|$, and K is a gain of the feedback.

Claim 4 (cancelled).